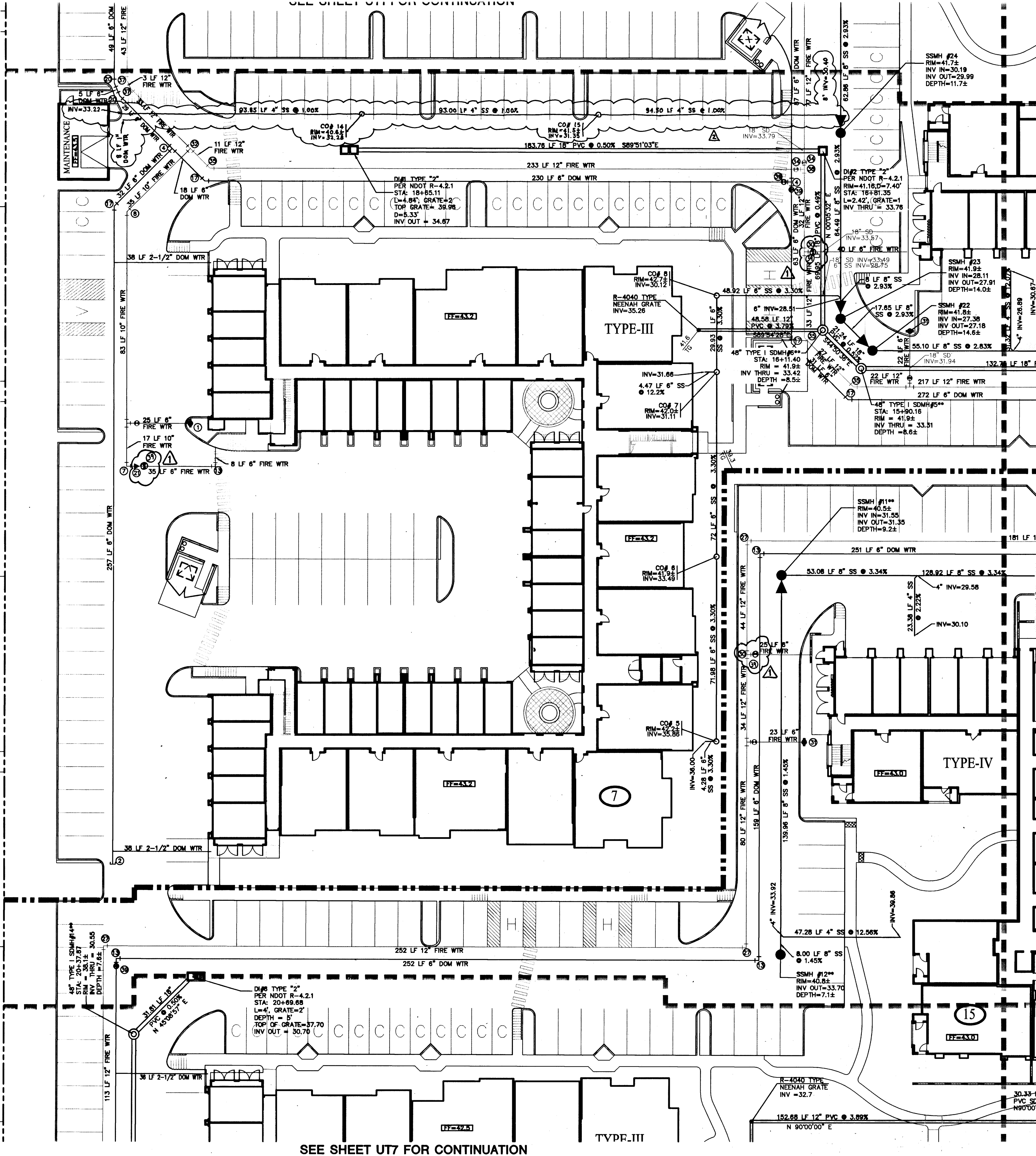




SEE SHEET UT7 FOR CONTINUATION

SEE SHEET UT5 FOR CONTINUATION

ESTIMATE OF QUANTITIES

WATER	PRIVATE
1. FIRE HYDRANT ASSEMBLY PER UDACS PL #7.....	4 EA.
(INCLUDES 10" x 6" TEE & 6"GV)	
2. 6" END CAP.....	4 EA.
3. 6" x 6" TEE.....	9 EA.
4. 2" WET TAP PER UDACS PL# 10.....	8 EA.
5. 10" - 90° BEND.....	4 EA.
6. 10" - 45° BEND.....	3 EA.
7. 6" - 90° BEND.....	18 EA.
8. 6" - 1' DEFLECTION.....	12 EA.
9. 6" - 11.25° BEND.....	8 EA.
10. 6" - 45° BEND.....	8 EA.
11. 6" - 5° BEND.....	4 EA.
12. 6" - 22.5° BEND.....	2 EA.
13. 10" x 6" REDUCER.....	4 EA.
14. 2" R.P.A. PER UDACS PL# 11A.....	8 EA.
15. 6" x 2" REDUCER PER UDACS PL# 3.....	5 EA.
16. 12" x 10" REDUCER.....	8 EA.
17. 2" METER PER UDACS PL# 1C.....	8 EA.
18. 10" LOW LOSS D.C.D.A. PER UDACS PL# 11C.....	4 EA.
19. 12" - 90° BEND PER UDACS PL# 5.....	17 EA.
20. 12" - 5° BEND.....	4 EA.
21. 12" - 1' DEFLECTION.....	12 EA.
22. 12" x 6" TEE.....	8 EA.
23. FIRE HYDRANT ASSEMBLY PER UDACS PL #7.....	11 EA.
(INCLUDES 12" x 6" TEE & 6"GV)	
24. 12" - 11.25° BEND.....	2 EA.
25. 12" - 45° BEND.....	7 EA.
26. 12" GATE VALVE.....	9 EA.
27. 12" - 45° BEND.....	7 EA.
28. 12" x 12" TEE.....	8 EA.
29. 12" - 22.5° BEND.....	2 EA.
30. 12" x 6" REDUCER.....	1 EA.
31. 6" GATE VALVE.....	3 EA.
32. 6" WATER MAIN.....	6,520 LF.
33. 10" WATER MAIN.....	476 LF.
34. 12" WATER MAIN.....	4,397 LF.
35. 2-1/2" WATER MAIN.....	1,050 LF.
36. STORM DRAIN.....	
37. 12" RCP.....	1,686 LF.
38. 18" RCP.....	1,299 LF.
39. 24" RCP.....	1,025 LF.
40. 60" TYPE III MH.....	4 EA.
41. 60" TYPE I MH.....	5 EA.
42. 48" TYPE I MH.....	7 EA.
43. DROP INLETS.....	
44. 8" AREA DRAIN.....	
45. SEWER.....	
46. STANDARD MANHOLE.....	35 EA.
47. SEWER CLEAN OUT.....	13 EA.
48. SEWER MANHOLE ADJUSTMENT.....	1 EA.
49. 4" SS MAIN (PRIVATE).....	133 LF.
50. 6" SS MAIN (PRIVATE).....	1,319 LF.
51. 8" SS MAIN (PRIVATE).....	3,531 LF.
52. BACKWATER VALVES (PRIVATE).....	0 EA.
53. POINT OF CONNECTION (UTILITIES).....	
54. SIGHT VISIBILITY EASEMENT.....	

SEWER CONTRIBUTION (BASED ON 739 LOTS)

AVERAGE DAILY FLOW =	0.18475 MGD.
PEAK FLOW (PE=3.1)	0.548625 MGD.
1" WATER MAIN.....	8 LF.
MAINTENANCE 4" SS MAIN (PRIVATE).....	281 LF.
MAINTENANCE SEWER CLEAN OUT.....	2 EA.

NOTE: ALL NON-POTABLE FIRE WATER LINES CROSSING POTABLE DOMESTIC WATER LINES ARE TO BE INSTALLED WITH "A" VERTICAL SEPARATION OF NO LESS THAN SIX INCHES. AND IN ACCORDANCE WITH UDACS 2.20.01, 2.04.05, 2.19.02.B1, AND 2.19.02.B2.

NOTE

ALL ABOVE GROUND UTILITY APPURTENANCES SHALL CONFORM TO THE REQUIREMENTS OF TITLE 19.12.040.

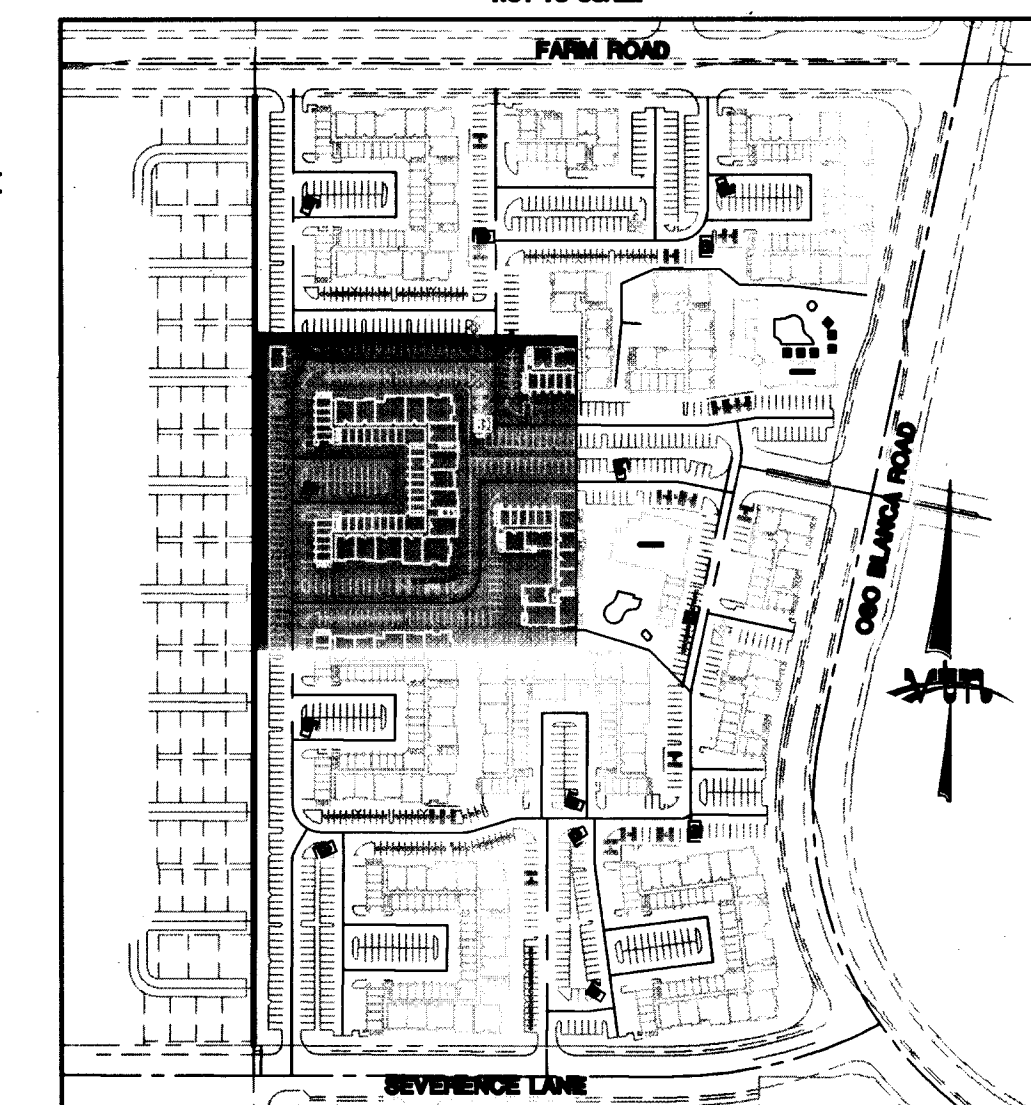
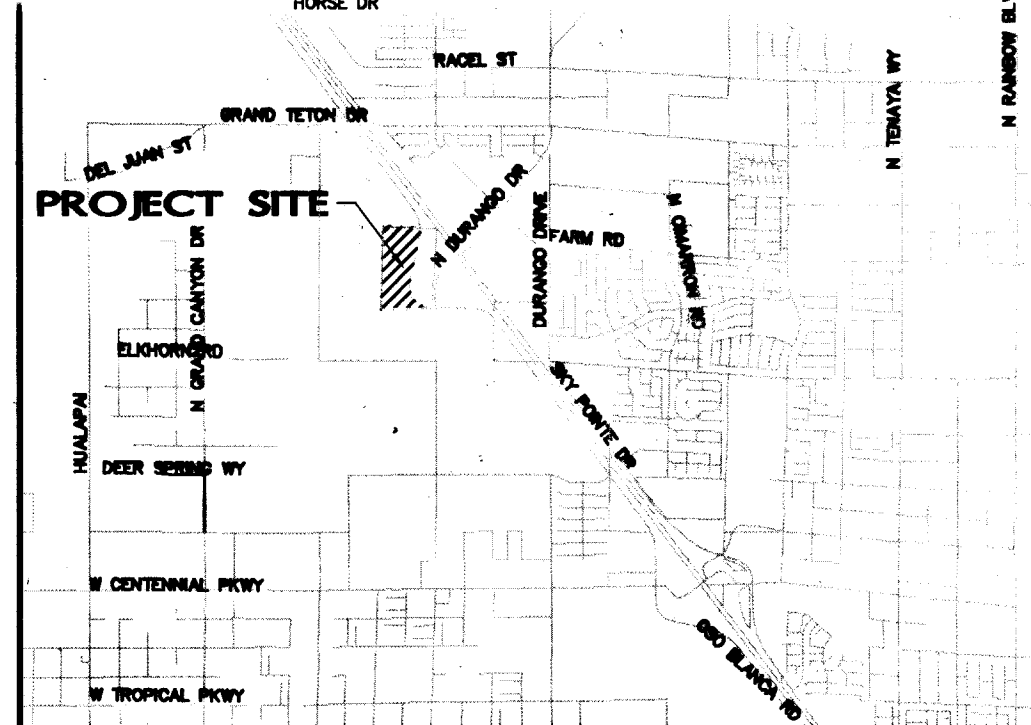
NOTE: ALL ONSITE WATER, SEWER AND STORM DRAINS ARE PRIVATELY MAINTAINED BY THE HOMEOWNERS ASSOCIATION.

NOTE: CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL LOCATION OF EXISTING UTILITIES AND NOTIFY THE DESIGN ENGINEER IMMEDIATELY OF ANY DISCREPANCIES PRIOR TO CONSTRUCTION.

NOTE

ALL POTABLE WATER LINES TO NON POTABLE UTILITIES WITH LESS THAN 10' SEPARATION WILL REQUIRE SEPARATE TRENCHING PER UDACS 2.19.01 (B) (1) SEE DETAIL ON SHEET U01.

SEE NOTE SHEET U01 FOR WATER PROOFING MANHOLES.



BENCHMARK

PROJECT DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88) CITY OF LAS VEGAS BENCHMARK: BLV90-17SES NAVD88 ELEVATION: 778.950 METERS (2555.61 FEET) RIVET AND PLATE IN TOP OF SOUTH END OF HEADWALL ON THE WEST SIDE OF WEST FRONTAGE RD. +/- 400 FT NORTH OF ELKHORN @ MP 89.4.

BASIS OF BEARING

NORTH 89°54'28" WEST, BEING THE BEARING OF THE NORTH LINE OF THE NORTHEAST QUARTER (NE 1/4) OF THE SOUTHWEST QUARTER (SW 1/4) OF SECTION 17, TOWNSHIP 18 SOUTH, RANGE 60 EAST, M.D.M., CITY OF LAS VEGAS, CLARK COUNTY, NEVADA, AS SHOWN ON THAT CERTAIN RECORD OF SURVEY IN FILE IN THE OFFICE OF THE COUNTY RECORDER, CLARK COUNTY, NEVADA, IN FILE 114 OF SURVEYS, AT PAGE 57.

FOR FIRE FLOW CALCULATIONS - SEE SHEETS FA1 & FA2

APPROVALS

CITY OF LAS VEGAS FIRE MARSHAL
LAS VEGAS VALLEY WATER DISTRICT
PROJECT # 113950

Call before you Overhead
1-702-227-2929

Call before you Dig
1-800-227-2600

Call before you Underground
1-702-455-7511
CLARK COUNTY TRAFFIC OPERATIONS
1-702-229-6611
FREEWAY AND ARTERIAL SYSTEM OF TRANSPORTATION

FAIRFIELD DEVELOPMENT, LP CITY OF LAS VEGAS, NEVADA 5510 MOREHOUSE DR. SUITE 200 SAN JOE, CALIFORNIA 92421 TEL (917) 510-2400		2727 SOUTH RAINBOW BOULEVARD LAS VEGAS, NEVADA 89146-5148 PH. (702) 873-7550 FAX (702) 882-2597 WWW.VTNNV.COM CONSULTING ENGINEERS & PLANNERS
DRAWN BY: RMM DESIGNED BY: DEH CHECKED BY: TER PROJECT NO: 6822-1	DATE: 07/17/07 DATE: 4/4/07 DATE: 07/17/07 SCALE: 1"=20' VERT.	SHEET UT4 41 OF 73 SHEETS DRAWING NO. 107Y4963